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Mr. HINKS's letter of August 16, 1907:—

Permit me to say that I have been much interested in your discussion of the distortion of the gelatine film in *L. O. Bulletin*, No. 118.

Your results for the absolute distortion are very much of the same order as those which I have found on my own plates, and I entirely agree with you that the general distortion is quite small as a rule. Your result that the treatment of the plates by various methods makes practically no difference is very interesting, valuable, and satisfactory.

With your last result, Summary § 6, I cannot however agree. It is true that the reseau was devised to eliminate distortion of the film, but it has proved itself so useful in other ways that it is still advisable to use it, even if it were absolutely certain that no distortion of the film exists. I would submit to you the following argument: If you do not use a reseau you must either use long screws or refer the measures to scales. Now long screws wear out quickly, are tedious to work with, have temperature errors, and so on. On the other hand, if you use divided scales you have to make as many settings as on the reseau, and you do so at great mechanical disadvantage. Therefore from a purely mechanical point of view I consider the reseau is the best.

Moreover it has in its favor one great practical advantage—there is no need to worry about the plate being disturbed during measurement—it does not matter in the least. And if for any reason you suspect an error in the measures, it is the easiest thing possible to put back the plate and measure up that image in a couple of minutes.

Here we have several people using the same measuring machine. We divide up the day roughly among us, but any man is at liberty to remove another man's plate if he finds the machine not actually at work and wants to use it himself. You can't do that unless you have a reseau, and it is the greatest possible convenience to be able to have this rough and ready rule.

From my letter to Mr. HINKS, September 30, 1907:—

... In regard to the distortions we are in perfect accord. As to the reseau there seems to be some difference of opinion due, I believe, to an imperfect understanding of each other's method of measurement. Especially the following sentence I did not understand: "On the other hand, if you use divided scales you have to make as many settings as on the reseau, and you do so at great mechanical disadvantage." ...

I agree with you that long screws are out of the question. Metal scales also have a drawback. Glass scales, however, have a number of points in their favor, an important one of which is the fact that they have the same coefficient of expansion as the photographic plate. Our Stackpole measuring machine has two glass scales, one for each coördinate, the distance between two successive rulings being 0.001 inch. The errors of the scale divisions have been carefully determined and are